

## CLAIMS

What is claimed is:

- 1    1.    A method for performing a frequent itemset operation, the method comprising the  
2    steps of:
  - 3        within a database server that supports a particular database language, parsing a  
4            database statement to detect within the database statement a construct that  
5            extends the particular database language;
  - 6        in response to detection of said construct, the database server performing a frequent  
7            itemset operation as part of execution of the database statement.
- 1    2.    The method of Claim 1 wherein the particular database language is SQL.
- 1    3.    The method of Claim 1 wherein the construct is a table function.
- 1    4.    The method of Claim 1 wherein:
  - 2            the database statement includes a first indication of a first input format;
  - 3            the frequent itemset operation operates on input that conforms to said first input  
4            format; and
  - 5            the method further comprises the steps of:
    - 6                parsing a second database statement to detect within the second database  
7                    statement the construct that extends a database language, wherein the  
8                    second database statement includes a second indication of a second  
9                    input format that is different from said first input format; and
    - 10              in response to detection of said construct in said second database statement,  
11              the database server performing a second frequent itemset operation as  
12              part of execution of the second database statement, wherein the second

13                   frequent itemset operation operates on input that conforms to said  
14                   second format.

1     5.       The method of Claim 4 wherein the first indication is identification of a first table  
2       function and the second indication is identification of a second table function.

1     6.       The method of Claim 1 wherein the frequent itemset operation uses, as input, a row  
2       source that is generated during execution of other operations specified in said database  
3       statement.

1     7.       The method of Claim 1 wherein the frequent itemset operation produces, as output, a  
2       row source that is used as input for other operations specified in said database statement.

1     8.       The method of Claim 1 wherein:  
2               the database statement specifies a frequency threshold; and  
3               the step of performing the frequent itemset operation includes performing the  
4               frequent itemset operation based on the frequency threshold specified in the  
5               database statement.

1     9.       The method of Claim 1 wherein:  
2               the database statement specifies a minimum length; and  
3               the step of performing the frequent itemset operation includes performing a frequent  
4               itemset operation whose results exclude all item sets that include fewer items  
5               than the minimum length specified in the database statement.

1     10.      The method of Claim 1 wherein:  
2               the database statement specifies a maximum length; and

3           the step of performing the frequent itemset operation includes performing a frequent  
4           itemset operation whose results exclude all item sets that include more items  
5           than the maximum length specified in the database statement.

1   11.   The method of Claim 1 wherein:  
2           the database statement specifies a set of one or more included items; and  
3           the step of performing the frequent itemset operation includes performing a frequent  
4           itemset operation whose results exclude all itemsets that do not include all  
5           items in said set of one or more included items.

1   12.   The method of Claim 1 wherein the step of performing the frequent itemset operation  
2           includes performing a frequent itemset operation whose results identify  
3           frequent itemsets, and  
4           for each of the frequent itemsets, a count of how many item groups included the  
5           frequent itemset.

1   13.   The method of Claim 1 wherein the step of performing the frequent itemset operation  
2           includes performing a frequent itemset operation whose results identify  
3           frequent itemsets, and  
4           for each of the frequent itemsets, a count of how items are in the frequent itemset.

1   14.   A computer-readable medium carrying one or more sequences of instructions which,  
2           when executed by one or more processors, causes the one or more processors to perform the  
3           method recited in Claim 1.

1    15.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 2.

1    16.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 3.

1    17.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 4.

1    18.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 5.

1    19.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 6.

1    20.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 7.

1    21.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 8.

1    22.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 9.

1    23.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 10.

1    24.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 11.

1    25.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 12.

1    26.    A computer-readable medium carrying one or more sequences of instructions which,  
2    when executed by one or more processors, causes the one or more processors to perform the  
3    method recited in Claim 13.